REMARKS

Claims 86-162, 224-229 and 270-272 are pending in the Subject Application; of these claims 140-150, 159-162, 224-227, and 270 were withdrawn in response to a restriction requirement. In the Office Action, claims 86-139 were rejected under 35 U.S.C. § 102(e) as anticipated by United States Patent Nos. 5,945,491 or 6,111,022 issued to Matyjaszewski et al. ("Matyjaszewski") and claims 151-158 and 271-272 are rejected under 35 U.S.C. § 103(a) as obvious over United States Patent No. 5,945,491 and *Atom Transfer Radical Polymerization and the Synthesis of Polymeric Materials,* Advanced Materials 1998 ("Patten"). Claims 86, 107, 118, 151 are the independent claims in the Subject Application.

Applicants respectfully submit that the claims as presently pending are patentable over the cited references. In order to place the Subject Application in condition for allowance, Applicants have amended the process of claim 86 to include the limitation that the second compound is not a free radically polymerizable monomer; and provide arguments that the process of claim 107 comprises an "elimination reaction involving the radically transferable atom or group to form a reactive unsaturated group" not disclosed in the prior art; that the process of claim 118 comprises "an elimination reaction comprising the radically transferable atom or group to form a reactive double bond; and allowing a second polymer having a second radically transferable atom or group in the presence of the transition metal complex to add to the reactive double bond" not disclosed in the prior art; that the process of claim 151 comprises "forming a multi-arm star copolymer wherein polymers react with the core forming compound to form the star compound" not disclosed or suggest in the prior art; and that the process of claim 271 comprises polymerizing monomers in the presence of a telefunctional multi-armed star initiator synthesized from free radically

copolymerizable monomers, a first initiator with one radically transferable atom or group, and a divinyl compound.

Claim 86, 107, and 118

In Scheme 3(a) and 3(b), Matyjaszewski describes an atom transfer radical polymerization ("ATRP") comprising a macroinitiator prepared by a cationic polymerization. The radically polymerizable monomers are polymerized from the cationically prepared macroinitiator. As seen in Scheme 3(a), the first line shows the formation of a polymer by a living carbocationic polymerization process. In lines 3-4, the cationically prepared macroinitiator is used to prepare a block copolymer with a subsequent ATRP with a radically polymerizable monomer, such as styrene (line 2), methacrlate (line 3), and methyl methacrylate (line 4). The process of Scheme 3(b) is similar to Scheme 3(a) except the process first two lines of Scheme 3(b) describe a carbocationic polymerization that results in an ATRP dual functional macroinitiator. The radically polymerizable monomers are added on both sides of the macroinitiator one at a time through an ATRP process to form an ABA block copolymer.

The process of Matyjaszewski is different than the processes of claim 86 as presently amended. The process of currently amended Claim 86 is different than Matyjaszewski because the process requires that the second compound not be a radically polymerizable monomer, however, all of the compounds in Matyjaszewski Scheme 3 added in the ATRP steps are radically polymerizable monomers.

The process of Matyjaszewski is different than the processes of Claims 107 and 118. The processes of Claims 107 and 118 are different than Matyjaszewski because the processes of these claims require an elimination reaction that involves the radically transferable atom or group, however, the reactions described in Scheme 3 do not include an elimination reaction to form a reactive unsaturated group on the

polymer or oligomer. An elimination reaction is a reaction that involves elimination of a portion of the reactant compound. In this case, the elimination reaction must also form a reactive unsaturated group, such as shown in Figure 7 and described on page 32 and 87, describing the elimination of HBr to form a reactive unsaturated group.

Claims 151-158 and 271-272

Claims 151-158 and 271-272 are rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 5, 945,491 (the "491 patent") in view of Patten. The 491 patent in the cited section (col. 16, last line of the reaction Scheme 3; column 17, the first and last line of the reaction Scheme 3) do not disclose the process as claimed in independent Claims 151 or 271. The reaction of Scheme 3 is, as described in more detail above, an ATRP from a macroinitiator. The monomers add one at a time to the macroinitiator to form the block copolymer.

The process of claim 151 includes the limitation wherein polymers react with the core forming compound to form the star compound. In both the 491 patent and Patten, the star polymers are prepared from a multifunctional initiator, a core forming compound, which reacts with monomers, not polymers.

The process of claim 271 includes the limitation that free radically (co)polymerizable monomers are polymerized in the presence of a system comprising a telefunctional multi-armed initiator. The telefunctional multi-armed is synthesized from free radically polymerizable monomers, a first initiator with one radically polymerizable atom or group and a divinyl compound. The initiators of the cited references are not the same, for at least the reason, that the initiators were not prepared with a divinyl compound. A divinyl compound is a compound that has two vinyl groups. Such a compound can link together compounds that may react with vinyl groups.

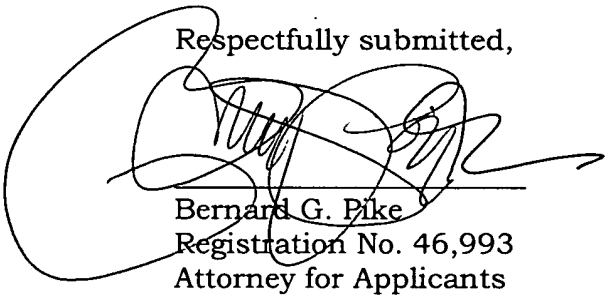
NEW CLAIMS

New Claims 287 and 288 are supported in the specification as filed on page 93 with the list of solvents in Claim 288 supported at various locations throughout the specification.

CONCLUSION

Applicants respectfully submit that the claims presented herein are fully supported by the application as originally filed and that all claims of the present application should be held patentable. Accordingly, passage of the claims to allowance at an early date is requested.

Respectfully submitted,



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